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Solvay America, Inc.
c/o Intellectual Assets Management
3737 Buffalo Speedway Ste. 800
Houston, TX 77098-3701

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MATTISON, LORI K

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iamnafta@solvay.com
tara.laposa@solvay.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte NICOLAS PALANGIE and JEAN-PHILIPPE PASCAL

Appeal 2015-002054
Application 12/090,444
Technology Center 1600

Before DONALD E. ADAMS, RICHARD J. SMITH, and
RYAN H. FLAX, *Administrative Patent Judges*.

ADAMS, *Administrative Patent Judge*.

DECISION ON APPEAL[1]

This Appeal under 35 U.S.C. § 134(a) involves claims 9–21 and 23–29 (Final Act. 1).[2] Examiner entered rejections under 35 U.S.C. § 103(a). We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

STATEMENT OF THE CASE

Appellants disclose "a process and a composition [] effective in combating the arthropod Pediculus humanus and/or its nits" (Spec. 1: 3–4).

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[1] Appellants identify "[t]he real party in interest [as] **Solvay SA**" (App. Br. 5).

[2] Pending claims 12, 13, 28, and 29 stand withdrawn from consideration (Final Act. 1).

Claim 9 is representative and reproduced below:

> 9. A composition in gel form, comprising from 40 to 50% by weight of alkali metal bicarbonate particles, from 15% and up to 25% by weight of silica, and from 35 to 45% of water, said composition being devoid of gelling polymers.

(App. Br. 36.)

The claims stand rejected as follows:

Claims 9–11, 14–21, and 23–27 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Palangie.[3]

Claims 9–11, 14–16, 18–21, 23, 24, 26, and 27 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Burgess[4] and Hoxie.[5]

Claims 9–11, 14–21, and 23–27 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Burgess, Hoxie, Anstett,[6] and Katz.[7]

ISSUE

Does the preponderance of evidence relied upon by Examiner support a conclusion of obviousness?

FACTUAL FINDINGS (FF)

FF 1. Appellants define the term "gel" as a "composition[] comprising at least two components, generally a solid dispersed in the colloidal form in a liquid phase. The dispersed particles form spatial networks stabilized by

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[3] Palangie et al., WO 2005/025317 A1, published Mar. 24, 2005.
[4] Burgess, GB 2 109 399 A, published June 2, 1983.
[5] Hoxie, US 3,418,243, issued Dec. 24, 1968.
[6] Anstett et al., US 3,919,101, issued Nov. 11, 1975.
[7] HANDBOOK OF FILLERS FOR PLASTICS (Harry S. Katz and John V. Milewski eds., Van Nostrand Reinhold) (1987).

means of Van der Waals' forces" (Spec. 4:6–9; *see* App. Br. 19; *see also* App. Br. 20 ("the claimed term 'gel' is defined in the present specification to include spatial networks of solid particles stabilized by means of Van der Waals' forces in a liquid phase (which in the claims is water)").

FF 2. Appellants disclose that "[w]hen the composition comprises silica, it is particularly easy to produce a gel by simple addition of water to the bicarbonate/silica mixture" (Spec. 4:12–13).

FF 3. Palangie discloses an "[a]queous parasiticidal suspension typically comprising from 1 to 15% by weight of silica and from 30 to 45% by weight of sodium bicarbonate [(an alkali metal bicarbonate) particles] and [a] method for controlling the development of parasites on animals raised in buildings" (Palangie Abstract and 5:34–35 (disclosing a composition comprising sodium bicarbonate particles); Ans. 2–3).

FF 4. Palangie exemplifies an "aqueous composition" comprising "sodium bicarbonate (i.e. an alkali metal bicarbonate), water and silica [that] is devoid of any other pediculicidal substance [and] is devoid of gelling polymers" (Ans. 3, citing Palangie 5–6).

FF 5. Examiner finds that Palangie "does not explicitly teach [a composition] compris[ing] 35-45% water" (Ans. 3).

FF 6. Burgess discloses:

> A [powdery] carpet cleaning composition comprising 20-94.99 weight % of a porous, particulate water-insoluble substance selected from silica, silicates, aluminosilicates and mixtures thereof, 5-79.99 weight % of a particulate carrier material selected from sodium bicarbonate, magnesium carbonate, calcium carbonate and magnesium oxide and 0.01-7 weight %

> of perfume. *The composition contains not more than 10 weight % of liquid substances.*

(Burgess Abstract (emphasis added); *id.* at 1: 79–80 ("It is an object of the present invention to provide a powdery composition suitable for treatment of carpets and like heavy furnishing fabrics"); Ans. 4; *see also* Ans. 5 (Burgess' composition "is free of gelling polymers and is completely inorganic").)

FF 7. Burgess exemplifies a composition comprising 47 wt.% porous silica and 40 wt.% sodium bicarbonate (Burgess 3:25–32; Ans. 4).

FF 8. Examiner finds that "BURGESS does not teach [a] composition [that] comprises 35 to 45% water" and relies on Hoxie to make up for this deficiency in Burgess (Ans. 6).

FF 9. Hoxie "relates to a composition for cleaning carpets, and more particularly to a dry cleaning composition for cleaning carpets in situ" (Hoxie 1:25–27; *see* Ans. 6).

FF 10. Hoxie discloses that "[w]hen cleaning carpets on the floor or in situ, it is desirable to use a minimum amount of water in order to reduce the drying period and eliminate the possibility of mildew occurrence" (Hoxie 1:28–31; *see* Ans. 6).

FF 11. Hoxie's composition "is in the form of a powder, or a finely divided solid material, which is only slightly moist to the touch but is essentially free flowing" (Hoxie 1:50–52; Ans. 6).

FF 12. Hoxie's composition "has the following general formula in weight percent and based on 100% active ingredients:

	Percent
Inert carrier	50 to 75
Solvent	4 to 15
Surfactant	0.25 to 10
Water	10 to 40"

(Hoxie 2:11–19; *see* Ans. 6).

FF 13. Hoxie discloses that:

> It has been found that if the liquid concentration [of the composition] is increased above 50%, the material will be mushy and will be more difficult to handle and apply. Conversely, if the water content decreases below 25% the material is too dry and powdery and dusting will be a problem accompanied by less effective cleaning properties.

(Hoxie 4:3–10.)

FF 14. Hoxie discloses "[s]pecific examples of the materials that can be employed as the inert carrier are diatomaceous earth, ground corncob, ground cork, talc, sawdust, fuller's earth and the like," wherein "[d]iatomaceous earth in particular provides a very excellent carrier" (Hoxie 2:59–63; *see* Ans. 6).

FF 15. Examiner finds that "HOXIE does not teach the composition comprises alkali metal bicarbonate particles such as sodium bicarbonate" (Ans. 6).

FF 16. Examiner finds that the combination of Burgess and Hoxie fails to suggest "silica [] in the form of particles having a specific surface greater than 200 m^2/g" and relies on Anstett and Katz to make up for this deficiency in the combination of Burgess and Hoxie (Ans. 7–8; *see id* at 7, citing Anstett 4:25–35 and Katz 188, Table 9-16 (Examiner finds that

Anstett discloses "an amorphous silica gel trademarked as 'Syloid'" and Katz discloses that "silica gels commercially available under the 'Syloid' tradename have surface areas ranging from 60-300 m^2/g").

ANALYSIS

The rejection over Palangie:

Based on Palangie, Examiner concludes that, at the time Appellants' invention was made, it would have been prima facie obvious

> to use 40-69 wt.% water in the composition because PALANGIE teaches the aqueous composition comprises 31-60% wt[.]% active ingredients (Math: 30 wt.% sodium bicarbonate + 1.0 wt.% silica = 31% active agents; 45 wt.% sodium bicarbonate + 15 wt.% silica = 60 wt.% active agent) leaving a remaining amount of 40-60% for the water solvent . . .; thereby, making it *prima facie* obvious to make an aqueous composition based upon simple arithmetic and PALANGIES teachings.

(Ans. 3–4.) Based on the foregoing, Examiner concludes that Palangie's composition must "necessarily [be] in gel form because it comprises the same reagents in overlapping amounts" (*id.* at 4; FF 1–4). In this regard, Examiner directs attention to Appellants' disclosure that "[w]hen the composition comprises silica, it is particularly easy to produce a gel by simple addition of water to the bicarbonate/silica mixture" (FF 2; Ans. 4). In sum, Examiner finds that the "[m]ere recognition of latent properties in the prior art does not render nonobvious an otherwise known invention" (Ans. 4). *See In re Baxter Travenol Labs.*, 952 F.2d 388, 392 (Fed. Cir. 1991).

Palangie discloses a composition "comprising from 1 to 15% by weight of silica and from 30 to 45% by weight of sodium bicarbonate [(an alkali metal bicarbonate) particles]" and water (FF 3). We find no error in Examiner's rationale that a person of ordinary skill in the art would have

found it prima facie obvious to readily calculate the percentage of water in Palangie's composition (Ans. 3–4; *cf.* App. Br. 23 ("it is clear that the artisan would understand that the water content in the composition may alter the form of the resulting composition. . . . As such, the selection of a water content in such a composition is not merely a matter of arithmetic"); Reply Br. 3–4). Thus, notwithstanding Appellants' contention to the contrary, Examiner's arithmetic establishes that each component of Palangie's composition falls within a range that overlaps the range claimed for each component of Appellants' claimed composition (*see* FF 3; Ans. 4; *cf.* Appellants' claim 9; App. Br. 23–24). "[W]here there is a range disclosed in the prior art, and the claimed invention falls within that range, there is a presumption of obviousness." *Iron Grip Barbell Co. v. USA Sports, Inc.*, 392 F.3d 1317, 1322 (Fed. Cir. 2004). As Examiner explains, Palangie discloses a composition that "is necessarily in [a] gel form because it comprises the same reagents in overlapping amounts" (Ans. 4). Therefore, we are not persuaded by Appellants' contention that their composition "is surprisingly much more effective than what is taught by PALANGIE," despite Palangie's disclosure of a composition comprising the same reagents in overlapping amounts (*see* App. Br. 25; *cf.* Ans. 4).

We recognize, but are not persuaded by, Appellants' unsupported contention that Palangie's "'aqueous suspension' [] is not necessarily a gel" (App. Br. 21; *see also* Reply Br. 2–3). *In re Pearson*, 494 F.2d 1399, 1405 (CCPA 1974) ("Attorney's argument in a brief cannot take the place of evidence."). We recognize, but are not persuaded by, Appellants' reference

to Vélez[8] to support Appellants' contention that Palangie's composition is not a gel (App. Br. 21). While Appellants' contention may be correct, in that some compositions falling within the scope of Palangie's disclosure are not gels, Appellants fail to establish an evidentiary basis on this record to support a conclusion that those embodiments of Palangie's composition that comprise components in amounts that overlap Appellants' claimed composition are not gels.

We recognize Appellants' contention that Palangie discloses that silica serves "as a flow improver of the suspension" and, thus, "the artisan wanting to make a gel would not want to increase fluidity" (App. Br. 22; Reply Br. 4–5). We find, however, that, notwithstanding Appellants' contention to the contrary, the evidence on this record supports Examiner's conclusion that "[i]n determining whether the subject matter of a patent claim is obvious, neither the particular motivation nor the avowed purpose of the patentee controls. What matters is the objective reach of the claim. If[, as here,] the claim extends to what is obvious, it is invalid under § 103" (Ans. 14, citing *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 419 (2007)). For the foregoing reasons, we find that Palangie disclose a composition that overlaps with, and, therefore, makes obvious the composition set forth in Appellants' claimed invention.

For the foregoing reasons, we recognize, but are not persuaded by, Appellants' contentions that Palangie discloses that gel formulations have "a higher cost" and "reduce[d] efficacy over time" (App. Br. 22, citing Palangie 1: 26–32 (emphasis removed); *see also* App. Br. 22–25)). In this regard, we

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[8] Vélez et al., *Sedimentation of Colloidal Gels under different Gravity Conditions*, FINAL REPORT of the REU PROGRAM (2003).

agree with Examiner's conclusion that Appellants' contentions relate to "unclaimed features" of Appellants' invention (*see* Ans. 12).

The rejection over the combination of Burgess and Hoxie:

Based on the combination of Burgess and Hoxie, Examiner concludes that, at the time Appellants' invention was made, it would have been prima facie obvious "to have modified the composition taught by BURGESS by adding water in the amount of 40 wt.% to the carpet cleaning composition as taught by HOXIE[,] because both of the compositions taught by BURGESS and HOXIE are carpet cleaning compositions" (Ans. 6). In this regard, Examiner finds that "the amount of water is a result effective variable" and that "[t]he adjustment of particular conventional working conditions (e.g. determining result effective amounts of the ingredients taught by the cited references) is routine optimization which is within the skill of the ordinary artisan" (Ans. 6–7; *see* FF 13).

Appellants contend, *inter alia*, that neither Burgess nor Hoxie suggest a composition in gel form as required by Appellants' claimed invention (App. Br. 28–30; Reply Br. 6–7). To the contrary, Appellants contend that Burgess and Hoxie both disclose powder compositions (*see* App. Br. 29; Reply Br. 6; *see also* FF 6 (Burgess discloses a powdery composition) and FF 11 (Hoxie's composition "is in the form of a powder, or a finely divided solid material, which is only slightly moist to the touch but is essentially free flowing")). Therefore, Appellants contend that "[n]o disclosure from the combination of [Burgess and Hoxie] could have reasonably inferred to the artisan that they are necessarily in gel form or that specific content percentages would lead to the formulation of a gel," which as defined by

Appellants "includes colloidal networks of solid particles in a liquid phase" (Reply Br. 6–7). In this regard, Appellants contend that notwithstanding Examiner's assertion to the contrary, there is no "guidance" in either Burgess or Hoxie alone or in combination that directs an artisan to increase the water content of Burgess' composition to comprise a "water content beyond 10%," in view of Hoxie's disclosure of a composition that comprises 10-40% water, but does not comprise alkali metal bicarbonate particles such as sodium bicarbonate (FF 6, 12, 15; *see, e.g.*, App. Br. 30; Reply Br. 6–7).

We recognize Examiner's assertion that "HOXIE teaches [the] use of a silica with a high surface area to protect the carpet backing and fibers from excess water and to accelerate drying" (Ans. 22, citing Hoxie 2:5–15, 20–30, and 40–45). Examiner's assertion, however, fails to explain how Hoxie's silica, would perform in Burgess' composition, which comprises silica and alkali metal bicarbonate particles, when the water content of the composition is increased above that suggested by Burgess (*see* Ans. 22; *cf.* FF 6, 12, and 15; *see generally* App. Br. 27–28). While Examiner may be correct in asserting that Burgess "does not denigrate [Hoxie's] composition," Examiner does recognize that Burgess identifies the "potential disadvantages" of Hoxie's composition and that Burgess "intended to improve" Hoxie's composition (Ans. 22).

In sum, we find that Examiner failed to establish an evidentiary basis on this record to support a conclusion that a person of ordinary skill in this art would have increased the water content of Burgess' composition above that disclosed by Burgess, based on Hoxie's disclosure of a composition that does not include alkali metal bicarbonate particles. We also find that Examiner failed to establish an evidentiary basis on this record to support a

conclusion that a person of ordinary skill in this art would have increased the water content of Burgess' composition to an amount that would have resulted in the formation of a gel when both Burgess and Hoxie disclose *powdery* compositions (FF 1, 6, and 11; *cf.* Ans. 23 (According to Examiner "a gel [] is a '*suspension* made of small inorganic particle[s] mixed with a liquid") (emphasis added)).

The rejection over the combination of Burgess, Hoxie, Anstett, and Katz:

Based on the combination of Burgess, Hoxie, Anstett, and Katz, Examiner concludes that, at the time Appellants' invention was made, it would have been prima facie obvious

> to have modified the [] composition taught by the combined references of BURGESS and HOXIE to select a silica with a surface that is greater than 200 m^2/g as taught by [] ANSTETT [and Katz] because a larger silica surface area provides benefits to the composition including a way for more water to evaporate to accelerate the carpet drying time and prevention of water from draining into the carpet backing. The adjustment of particular conventional working conditions (e.g. determining result effective surface for the silica) is routine optimization which is within the skill of the ordinary artisan.

(Ans. 8; FF 16.) In this regard, Examiner asserts that

> [b]oth BURGESS and HOXIE teach inclusion of silica in their [compositions]. HOXIE further teaches use of a silica with a high surface area to protect the carpet backing and fibers from excess water and to accelerate drying[]. ANSTETT [and Katz are] provided merely to teach the benefits, and provide motivation, known by the ordinary skilled artisan in the carpet cleaning arts, for selection of a silica with a surface that is 60-300m^2/g.

(Ans. 27.)

Taken together, Examiner failed to establish an evidentiary basis on this record to support a conclusion that the combination of Anstett and Katz makes up for the foregoing deficiencies in the combination of Burgess and Hoxie.

CONCLUSION OF LAW

The preponderance of evidence relied upon by Examiner supports a conclusion of obviousness as it relates to the rejection over Palangie.

The rejection of claim 9 under 35 U.S.C. § 103(a) as unpatentable over Palangie is affirmed. Claims 10, 11, 14–21, and 23–27 are not separately argued and fall with claim 9.

The preponderance of evidence relied upon by Examiner fails to support a conclusion of obviousness with respect to the rejections over the combination of Burgess and Hoxie taken with or without the combination of Anstett and Katz.

The rejection of claims 9–11, 14–16, 18–21, 23, 24, 26, and 27 under 35 U.S.C. § 103(a) as unpatentable over the combination of Burgess and Hoxie is reversed.

The rejection of claims 9–11, 14–21, and 23–27 under 35 U.S.C. § 103(a) as unpatentable over the combination of Burgess, Hoxie, Anstett, and Katz is reversed.

TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED